CHAPTER TEN

# Conservation, Wildlife Management, and Identification

### *Learning Objectives*

*At the end of this chapter, you will be able to:*

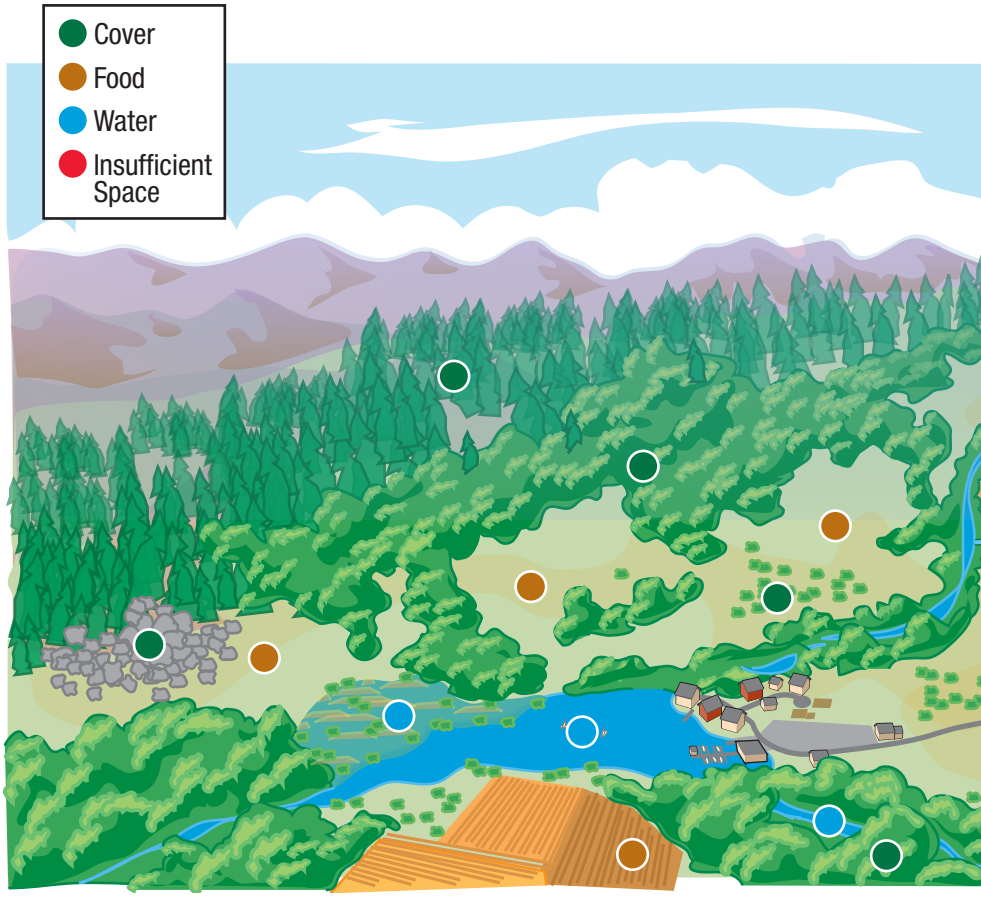
- Understand the concepts of habitat and carrying capacity.
- Define wildlife management and explain the role of hunting in managing wildlife.
- Define conservation, and list ways in which hunters pay for and contribute to conservation.
- Identify Montana's primary game species.

## Respect for wildlife

At some point in your hunting career you will have to grapple with difficult questions that society and nonhunters may ask of you: If a hunter's basic goal is to kill, why is it important for a hunter to have respect for that animal? Can you kill something you respect? Should you? Should hunters also be conservationists? Why?

Most hunters have immense respect for the wildlife they hunt—and for the wildlife they don't hunt. They also respect the land that supports wildlife. Hunting can teach you to understand the cycles of nature and make it easier to accept that death is a natural and important part of life.

Being a responsible hunter means respecting wildlife and giving something back in exchange for the continued privilege to hunt year after year. As a group, hunters have done more to help wildlife than anyone else. Through their support for wildlife management and



conservation programs, hunters are directly responsible for many of the healthy wildlife populations we enjoy today.

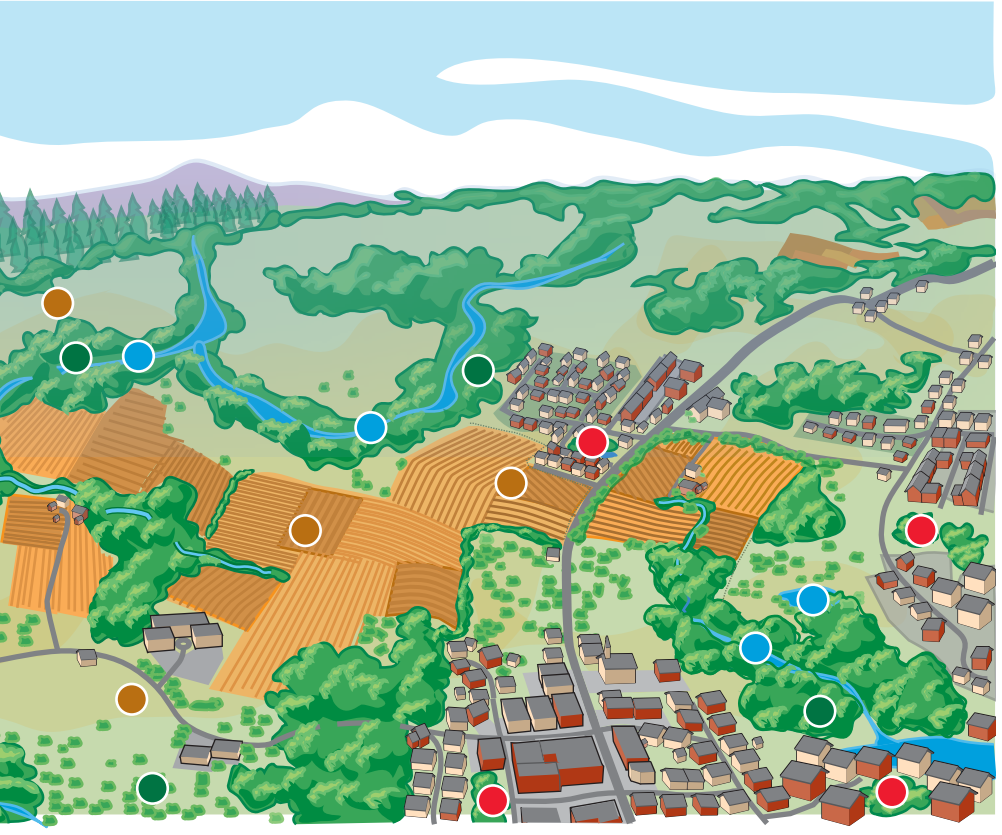
## What is habitat, and why is it important?

An animal's habitat is its home—its environment. A habitat includes everything that an animal needs. The quality and size of a habitat determines the number of animals (the population) that can live there.

### Habitat management

The habitat is where a species fulfills its basic life needs: nourishment, procreation, and rest. If not managed properly, urban development can result in habitat loss, which presents the greatest threat to wildlife. Habitat management, the most essential aspect of wildlife management, safeguards the essential elements to meet these needs:

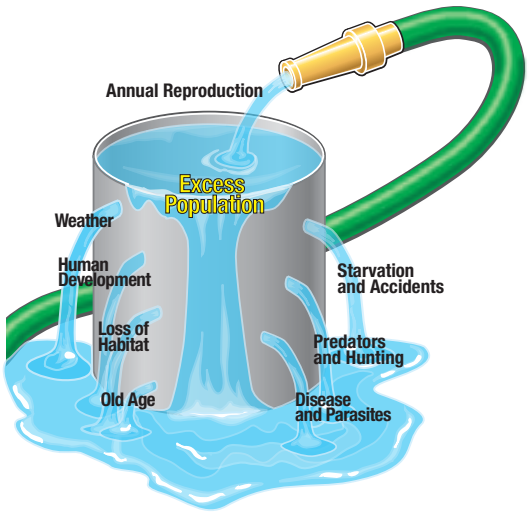
- Food and water are necessary to all wildlife. Competition for these elements among species makes cover, space, and arrangement top priorities.
- Cover protects animals from predators and the weather while they feed, breed, roost, nest, and travel. Cover ranges from thick weeds and brush to a few rocks piled together.



- Space is necessary for adequate food among wildlife, territorial space for mating and nesting, and freedom from stress-related diseases.
- Arrangement of these elements ideally allows animals to meet these needs in a small area to minimize energy use while fulfilling their basic needs.

Edge effect refers to the consequence of placing two contrasting ecosystems adjacent to one another. Most animals locate where food and cover meet, particularly near water. An example would be a river bottom, which offers many animals all their habitat needs along one corridor.

## Carrying capacity

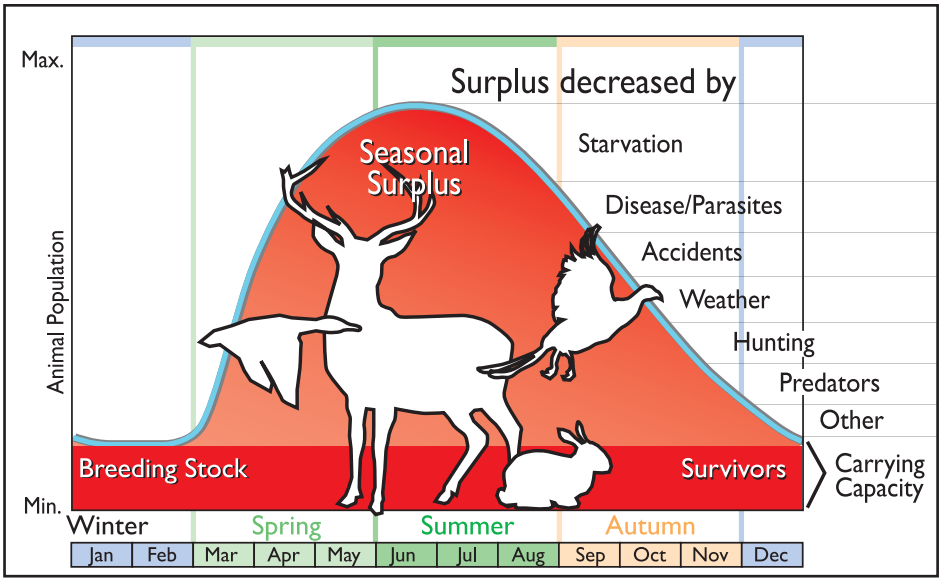



The resources in any given habitat can support only a certain quantity of wildlife. As seasons change, food, water, or cover may be in short supply. Carrying capacity is the number of animals the habitat can support all year long. The carrying capacity of a certain tract of land can vary from year to year. It can be changed by nature or humans.

**Factors that limit the potential production of wildlife include:**

- Disease/parasites
- Starvation
- Predators
- Pollution
- Accidents
- Old age
- Hunting

If the conditions are balanced, game animals will produce a surplus, which can be harvested on an annual, sustainable basis.



### The Hunter's role in wildlife conservation

- Since wildlife is a renewable resource with a surplus, hunters help control wildlife populations at a healthy balance for the habitat. Regulated hunting has never led to threatened or endangered wildlife populations.
- Hunting is an effective wildlife management tool. Hunters play an important role by providing the information from the field that wildlife managers need.
- Funding from hunting licenses has helped many game and non-game species recover from dwindling populations.

## Wildlife management and conservation principles

- The wildlife manager's job is to maintain the number of animals in a habitat at or below the habitat's carrying capacity so that no damage is done to the animals or to their habitat.
- In a sense, a wildlife manager's task is similar to a rancher's. Just as a rancher limits the number of animals in a cattle herd to a level that the habitat can tolerate, wildlife managers try to keep the number of animals in balance with their habitat. In addition to looking at the total number of each species in a habitat, wildlife managers also monitor the breeding stock—the correct mix of adult and young animals needed to sustain a population.
- To manage a habitat, wildlife managers must consider historical trends, current habitat conditions, breeding population levels, long-term projections, and breeding success. With that knowledge, wildlife managers have a variety of practices at their disposal to keep habitats in balance.

### Wildlife management practices

- **Monitoring wildlife populations:** Wildlife managers continuously monitor the birth rate and death rate of various species and the condition of their habitat. This provides the data needed to set hunting regulations and determine if other wildlife management practices are needed to conserve wildlife species.
- **Habitat improvement:** As succession occurs, the change in habitat affects the type and number of wildlife the habitat can support. Wildlife managers may cut down or burn forested areas to promote new growth and slow down the process of succession. This practice enables them to increase the production of certain wildlife species.
- **Hunting regulations:** Hunting regulations protect habitat and preserve animal populations. Regulations include setting daily and seasonal time limits, bag limits, and legal methods for taking wildlife.

- **Hunting:** Hunting is an effective wildlife management tool. Hunting practices help managers keep animal populations in balance with habitat.
- **Predator control:** In rare instances, predators must be reduced to enable some wildlife populations to establish stable populations, particularly threatened or endangered species.
- **Artificial stocking:** Restocking of game animals has been successful in many parts of the nation. Trapping animals in areas where they are abundant and releasing them in other areas of suitable habitat is an example of restocking.
- **Controlling or preventing disease and its spread:** Disease can have a devastating effect on wildlife. Avian cholera, for example, poses a serious threat, especially to ducks and geese on crowded wintering grounds. Once avian cholera occurs, managers must work to prevent its spread by gathering and burning waterfowl carcasses daily.
- **Management funds/programs:** In addition to Pittman-Robertson funds, many states have initiated programs that help finance conservation efforts.

## What is conservation, and how do hunters help?

Think about the impact humans have had on wildlife. Before any humans occupied the North American continent, the laws of nature controlled wild animals. Humans changed that by taking the land to use for our own purposes. When we build houses, shopping centers, or offices (a process called urbanization), we change the carrying capacity of the land. When we farm, ranch, mine, log, or build roads we also change the carrying capacity. When we change the carrying capacity, we affect the number and types of wildlife than can live on that land. Hunting, too, has an effect on wildlife populations.

Of course, not all human activity is necessarily bad for wildlife. As we have seen, we've learned how to manage some wildlife populations successfully so that these animals can live side by side with humans—as long as humans are willing to follow the principles of conservation.

Conservation is the responsible care and management of wildlife. It means that we think about the possible effects of our actions on wildlife and that we act in such a way that animal populations are able to grow and sustain themselves.

Most hunters are conservationists. They understand their role as not only top "predator," but also as the only predator that can intentionally help their prey through conservation efforts. Hunters contribute time and money to projects that benefit wildlife and wildlife habitat. They join wildlife conservation organizations. When they hunt they obey laws and regulations.

## Where does the money for conservation come from?

Whether you realize it or not, as a hunter you contribute money to wildlife conservation every time you buy a hunting license, duck stamp, rifle, or box of ammunition.

The money from your hunting license helps Montana Fish, Wildlife & Parks pay for conservation projects as well as law enforcement, Hunter Education, and other programs.

When you buy a federal duck stamp, the money goes directly to federal conservation programs to help waterfowl. Hunters provide about $185 million per year through license fees nationwide.

The Pittman-Robertson Act (also known as the Federal Aid in Wildlife Restoration Act) of 1937 charges an 11% tax on the purchase of firearms, ammunition, or archery equipment. Hunters played an important role in getting this law passed, and the money raised goes directly to wildlife conservation and Hunter Education. Hunters provide almost $86 million a year for conservation through this tax—over $2 BILLION since 1937! It is the single biggest source of money collected nationally for wildlife.

Hunters also pay through fees for memberships in organizations such as Pheasants Forever, Rocky Mountain Elk Foundation, National Wild Turkey Federation, Mule Deer Foundation, Ducks Unlimited, and other conservation groups. The main purpose of these organizations is to conserve wildlife and its habitat, and through these organizations, hunters raise millions of dollars and volunteer thousands of hours to benefit wildlife.

**Hunters pay for wildlife management and conservation through license fees, a special tax, and memberships in wildlife conservation organizations!**

Conservation minded hunters have done more to help wildlife populations than any other segment of society. Contrary to popular belief, regulated hunting does not cause wildlife to become endangered or extinct. In fact, many species exist today only because of the efforts and commitment of responsible, respectful hunters.

### Balancing Act

Habitats must be in balance in order to support wildlife. Remove a certain population of plants or animals from a community, and the community may not survive. This typically happens when urban development pushes into wildlife areas.

## Pittman-Robertson Act

- The Federal Aid in Wildlife Restoration Act, popularly known as the Pittman-Robertson Act, was approved by Congress in 1937. The Act provides funding for the selection, restoration, and improvement of wildlife habitat, and for wildlife management research. The Act was amended in 1970 to include funding for hunter education programs and for the development and operation of public target ranges.
- Funds for the Act come from an 11% federal excise tax on sporting arms, ammunition, and archery equipment, and a 10% tax on handguns. One-half of the excise tax on handguns and archery equipment is used for hunter education and target ranges. These funds are collected from the manufacturers and are distributed each year to the states and territorial areas by the Department of the Interior.
- Each state's proportion of the federal funds is based on the area of the state and the number of licensed hunters in the state. The state covers the full amount of an approved project and then applies for reimbursement through federal aid for up to 75% of the project's expenses; the state is responsible for the other 25% of the project's cost.

## You can help!

Because wildlife can't speak for itself, hunters (and other interested people) must speak on its behalf. Here are some things that you can do:

- **Stay informed**. Learn about the impacts of land use decisions on wildlife.
- **Become involved**. Attend meetings, get to know the people responsible for making decisions, and become a positive voice for conservation.
- **Follow-up**. When decision-makers make decisions that benefit wildlife, let them know what great choices they made. When they make bad decisions, don't make them your enemies, but let them know that you hope they'll consider wildlife next time.

In some areas, biologists ask hunters to report the kinds and numbers of animals they see while hunting, or to provide samples from their animals such as teeth or wings. These parts are used to age the animal and determine its health. In Montana, hunters are required to stop at check stations to report their kill and their hunting activities. Sometimes hunters are asked to answer a few questions about their hunting activities when they buy a license, or they may receive a written survey in the mail asking about their hunting activities. This information is vital to biologists and managers, and your help in providing information is important. The future of hunting greatly depends on the continued participation of hunters in efforts like these.

Source: Ohio Division of Wildlife

## Wildlife identification

One of the principal rules of firearm safety is: Be sure of your target and beyond. In other words, you must be able to identify what species of wildlife you are looking at.

Imagine you are hunting in an area where both white-tailed and mule deer live, but hunting regulations allow you to take only white-tailed deer. You spot what is clearly a deer, but you can't tell definitively which type it is. Before you shoot, it is your responsibility to make absolutely sure that the deer you are looking at is not a mule deer. Can you tell the difference? Can you tell the difference in the field with your heart pounding and a big buck ready to leap away at any second?

In Montana, it's illegal to take female pheasants. When a pheasant flies up in front of you, you have only a split second to decide if it's a rooster or a hen. Do you know what to look for?

Wildlife identification is a skill. The best way to practice and develop it is to look for live animals in their natural habitats. Once you've found them, study them for a while, and see how they behave.


### Good hunters are good scouts

To locate a particular type of animal, do a little research to find out what sort of habitat that animal likes. Then find detailed maps of areas where you think that type of habitat exists. Keep in mind the things all wildlife need—food, water, shelter, and space in a particular arrangement. Circle likely spots on your map, and then go out and see what you can find.

Learn to look for natural signs that animals leave. Learn what a particular animal's track looks like. Animal droppings can tell you a lot about what kind of animals are around, what they are eating and when they are using a particular area. The skills you acquire in looking for wildlife come in handy during hunting season.

When you're trying to identify wildlife that's far away, it can be helpful to use binoculars or a spotting scope. Never use your riflescope to identify an animal. Remember, when you are pointing your scope at an animal, you are also pointing your rifle at that animal.

What if the "animal" turns out to be another hunter? Use your riflescope only to aim and shoot.

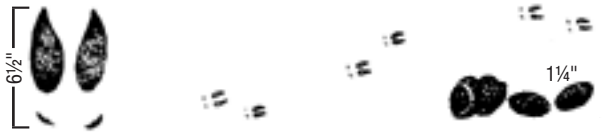
To be absolutely certain of the identity of your target, always look for more than one identifying characteristic before taking the shot.

Montana is home to many species of wildlife. The following are just a few of the species you need to be able to positively identify.

## Moose

**Size:** length to 10 ft. (3 m); shoulder height to 7½ ft. (2.3 m); male weight to 1,400 lb. (635 kg); female weight 600-800 lb. (272.1-362.9 kg).

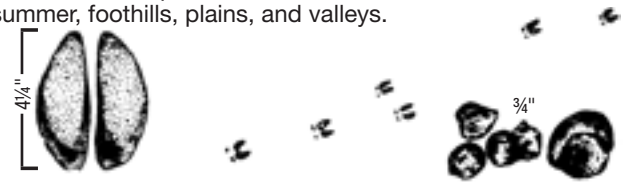
**Habitat:** wilderness forests near shallow lakes, marshes, and swamps.




## Elk

**Size:** length of bull to 9½ ft. (2.9 m); shoulder height 4-5 ft. (1.2-1.5 m); male weight 700-1,100 lb. (349.3-499 kg); female weight 500-650 lb. (226.8-294.8 kg).

**Habitat:** semi-open woodlands, mountain meadows in summer, foothills, plains, and valleys.



## White-Tailed Deer

**Size:** length to 6 ft. (1.8 m); shoulder height to 3¾ ft. (1.1 m); male weight 75-400 lb. (34-181.4 kg); female weight 50-150 lb. (22.7-113.4 kg).

**Habitat:** brushy areas, low mixed woodlands, and forest edges.


## Mule Deer

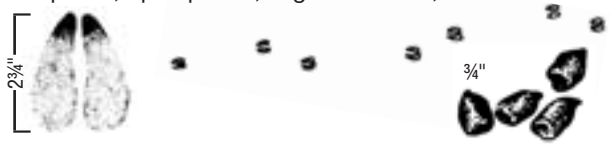
**Size:** length to 6½ ft. (2 m); shoulder height 3-3½ ft. (.9-1.1 m); male weight 125-400 lb. (61.2-181.4 kg); female weight 100-150 lb. (45.4-68 kg).

**Habitat:** forests, desert shrubs, plateaus, brushy areas, and rock uplands.

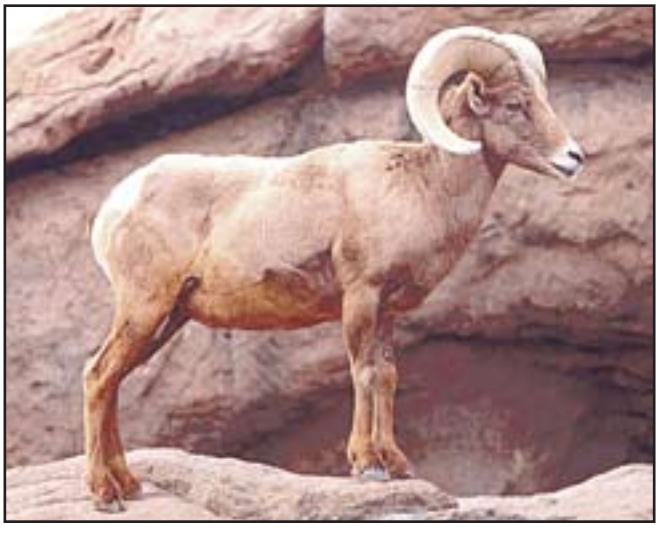

## Pronghorn

**Size:** length to 4½ ft. (1.4 m); shoulder height to 3½ ft. (1.1 m); weight 75-140 lb. (34-63.5 kg).

**Habitat:** plains, open prairie, sagebrush flats, and desert.

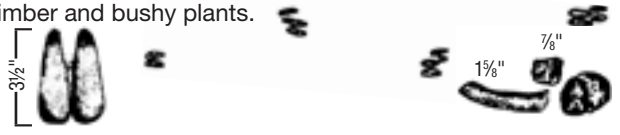



## Bighorn Sheep



**Size:** shoulder height 2½-3½ ft. (.8-1.1 m); male weight 125-275 lb. (56.7-124.7 kg); female weight 75-150 lb. (34-68 kg).

**Habitat:** rugged mountain slopes in high country with sparse timber and bushy plants.



## Mountain Goat

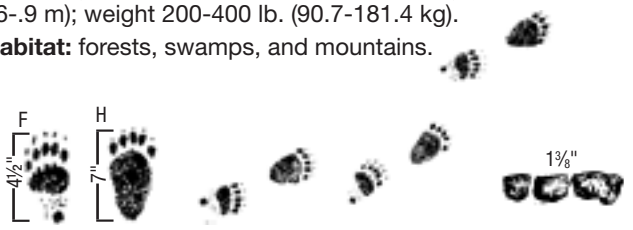
**Size:** head and body to 5 ft. (1.5 m); shoulder height 3⅓ ft. (1.1 m); weight to 276 lb. (125.2 kg).

**Habitat:** mountain tops above timberline in summer and lower elevations in winter.


## Black Bear

**Size:** length 5-6 ft. (1.5-1.8 m); shoulder height 2-3 ft. (.6-.9 m); weight 200-400 lb. (90.7-181.4 kg).

**Habitat:** forests, swamps, and mountains.




## Grizzly Bear / Brown Bear

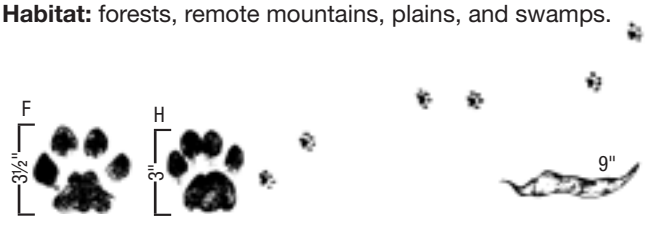
**Size:** length 6-7 ft. (1.8-2.1 m); shoulder height 3-3½ ft. (.9-1.1 m); weight 325-850 lb. (147.4-385.6 kg).

**Habitat:** forested areas of oak and beech trees, remote country, and mountains.


## Mountain Lion/Cougar

**Size:** head and body 42-54 in. (106.7-137.2 cm); tail 30-36 in. (76.2-91.4 cm); shoulder height 26-31 in. (66-78.7 cm); weight 80-260 lb. (36.3-117.9 kg).

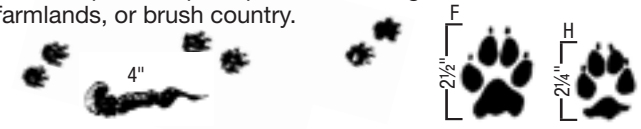
**Habitat:** forests, remote mountains, plains, and swamps.



## Coyote

**Size:** head and body 46-49 in. (118-125 cm); tail 13-15 in. (33-38 cm); weight 24-31 lb. (11-14 kg).

**Habitat:** prefers open spaces such as grasslands, farmlands, or brush country.




## Grey Wolf

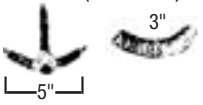
**Size:** head and body 51-71 in. (130-180 cm); tail 17-18 in. (43-45 cm); weight 67-110 lb. (30-50 kg).

**Habitat:** wilderness areas: plains, forests, and tundras.


## Wild Turkey

**Size:** male to 48 in. (121.9 cm); female to 36 in. (91.4 cm).

**Habitat:** open timberland, mountain forest, logged-over land, and prairies where food is available.




## Ring-Necked Pheasant

**Size:** male 30-36 in. (76.2-91.4 cm); female 21-25 in. (53.3-63.5 cm).

**Habitat:** farmland with adjacent growth for cover, mixed woods, and open prairie.

## Hungarian (Gray) Partridge

**Size:** 12-14 in. (30.5-35.6 cm).

**Habitat:** open farmland with weeds for shelter and grain fields.

## Blue Grouse

**Size:** 15-21 in. (38.1-53.3 cm).

**Habitat:** coniferous forests, logging slash, burned-over timberland, and sub-alpine clearings.

## Ruffed Grouse

**Size:** 16-19 in. (40.6-48.3 cm).
**Habitat:** brushy timberlands and coniferous forest edges.

## Greater Sage Grouse

**Size:** male 26-30 in. (66-76.2 cm); female 22-23 in. (55.9-58.4 cm).
**Habitat:** high sagebrush plains and plateaus.

## Sharp-Tailed Grouse

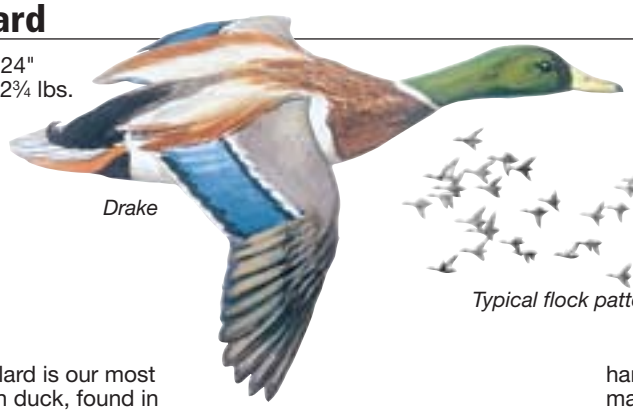
**Size:** 15-20 in. (38.1-50.8 cm).
**Habitat:** open brushlands, prairies, clearings, and forest edges.

## Mourning Dove

**Size:** 11-13 in. (27.9-33 cm).
**Habitat:** dry uplands, grainfields, suburbs, and deserts.

## Mallard

Length: 24"
Weight: 2¾ lbs.



*Drake*

*Typical flock pattern*

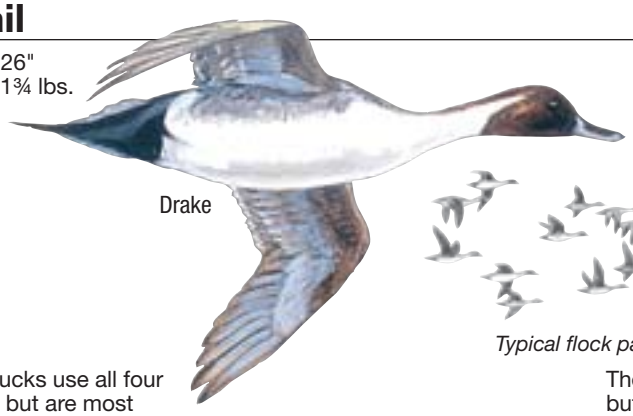
The mallard is our most common duck, found in all flyways. The males are often called “greenheads.” The main wintering area is the lower Mississippi basin, and along the gulf coast, but many stay as far north as open water permits.

Flocks often feed in early morning and late afternoon in nearby harvested fields, returning to marshes and creeks to spend the night.

The flight is not particularly rapid. Hens have a loud quack; the drake’s voice is a low-pitched *kwak-kwek*.

## Pintail

Length: 26"
Weight: 1¾ lbs.



Drake

*Typical flock pattern*

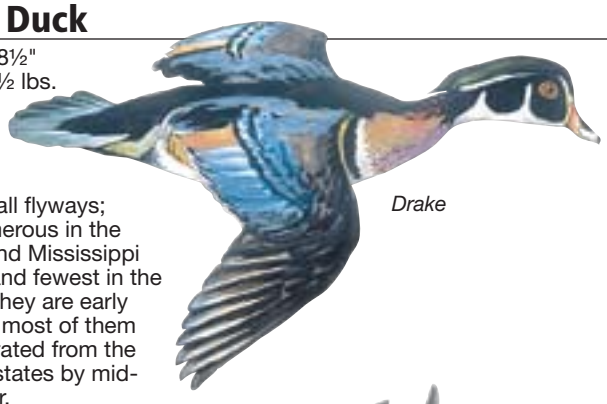
These ducks use all four flyways, but are most plentiful in the west.
They are extremely graceful and fast fliers, fond of zig-zagging from great heights before leveling off to land.

The long neck and tail make them appear longer than mallards, but in body size and weight pintails are smaller.

They are agile on land and often feed in grain fields. The drakes whistle; the hens have a coarse *quack.*

## Wood Duck

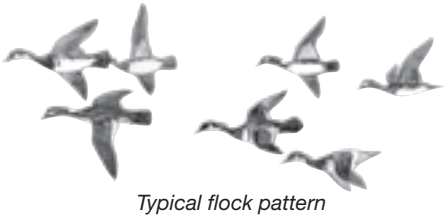
Length: 18½"
Weight: 1½ lbs.



*Drake*

Found in all flyways; most numerous in the Atlantic and Mississippi Flyways and fewest in the Central. They are early migrants; most of them have migrated from the northern states by mid-November.

These ducks frequent wooded streams and ponds; and perch in trees. They fly through thick timber with speed and ease and often feed on acorns, berries, and grapes on the forest floors.



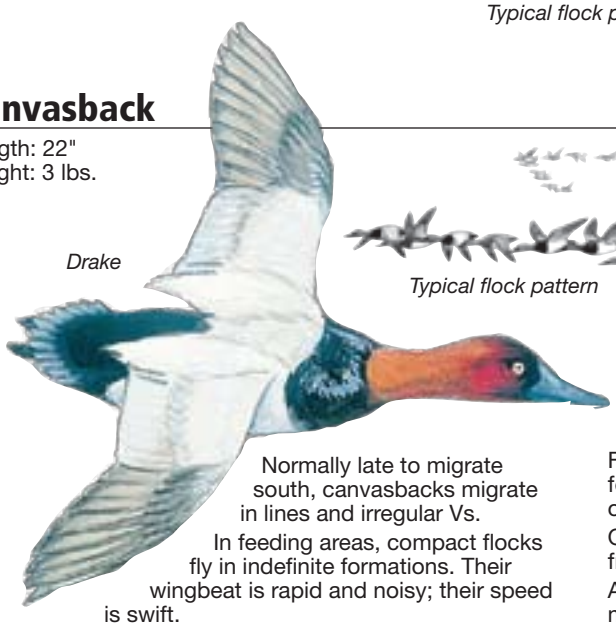
*Typical flock pattern*

Flight is swift and direct; flocks are usually small.

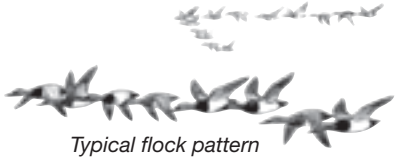
In the air, their wings make a rustling, swishing sound. Drakes call *hoo-w-ett,* often in flight; hens have a *cr-r-ek* when frightened.

## Canvasback

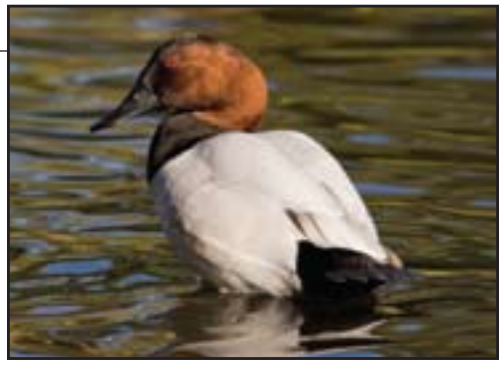
Length: 22"
Weight: 3 lbs.



*Drake*



*Typical flock pattern*



Normally late to migrate south, canvasbacks migrate in lines and irregular Vs.

In feeding areas, compact flocks fly in indefinite formations. Their wingbeat is rapid and noisy; their speed is swift.

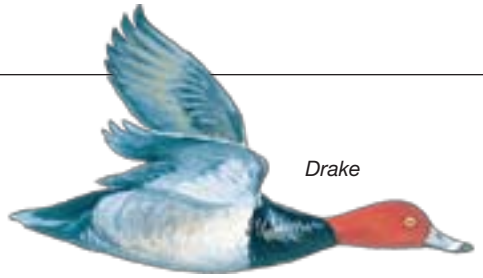
Feeding behavior is highly variable. In some areas they feed at night and spend the day rafted up in open water; in other areas they feed inshore mornings and evenings.

On the water, body size and head shape distinguish them from scaups and redheads.

A drake's voice is a *croak, peep* and *growl;* hens have a mallard-like *quack.*

## Redheads

Length: 20"
Weight: 2½ lbs.



*Drake*

Redheads range from coast to coast, with the largest numbers in the Central Flyway. Migratory flocks travel in V's, move in irregular formations over feeding area. Redheads are often found associating with canvasbacks.

In the air, they give the impression of always being in a hurry.

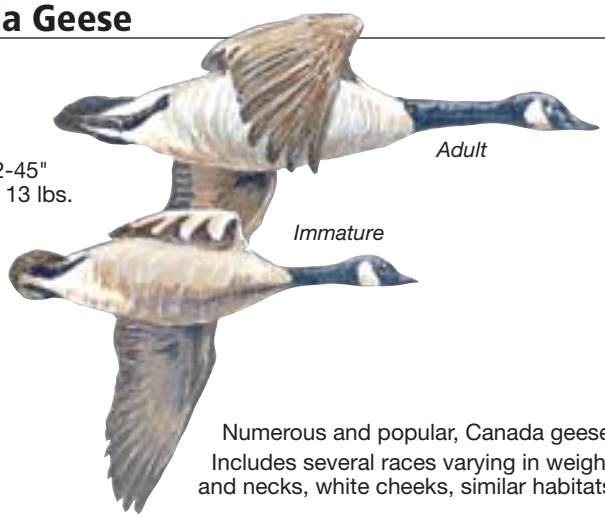
*Typical flock pattern*

Redheads usually spend the day in large rafts in deep water; they feed morning and evening in shallower sections.

Drakes *purr* and *meow;* hens have a loud *squak;* higher than a hen mallard's.

## Canada Geese

Length: 22-45"
Weight: to 13 lbs.



*Adult*

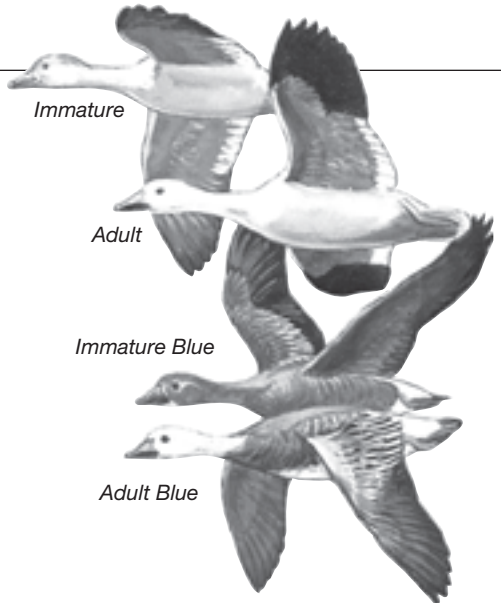
*Immature*

Numerous and popular, Canada geese are often called "honkers."

Includes several races varying in weight from 3 to over 12 pounds. All have black heads and necks, white cheeks, similar habitats and voices. Sexes are identical.

## Snow Geese

Length: 26"
Weight: 1¾ lbs.



*Immature*

*Adult*

*Immature Blue*

*Adult Blue*

Two races of snow geese are recognized: greater snows along the Atlantic Coast, and lesser snows elsewhere on the continent. Blue geese are a color phase of the lesser snow.

# Chapter Ten Quiz

1. Hunting is an important tool of wildlife management.

   _____ true

   _____ false

2. Name the four essential elements of wildlife habitat.

   _____, _____, _____, and _____.

3. Which of the following is a major threat to wildlife populations today?

   _____ Hunting

   _____ Disease

   _____ Habitat loss

4. Name the federal act that charges a special tax on guns and other hunting equipment to raise money for conservation and wildlife management.

   _____

5. A wildlife conservationist: (Mark the correct answer.)

   _____ tries to save the life of every animal.

   _____ tries to promote healthy populations of animals.

   _____ protests against hunting and trapping.

6. Which of the following are tools biologists use to manage wildlife? (Mark the correct answer.)

   _____ Habitat improvements

   _____ Hunter surveys

   _____ Animal inventories

   _____ All of the above

7. Who pays for wildlife management in Montana? (Mark the correct answer.)

   _____ Bird watchers

   _____ Hunters

   _____ Wildlife watchers